



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/529,442

03/28/2005

Raffaello Mazzanti

163-617

6182

47888 7590 05/22/2009
HEDMAN & COSTIGAN P.C.
1185 AVENUE OF THE AMERICAS
NEW YORK, NY 10036

EXAMINER

LIGHTFOOT, ELENA TSOY

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

05/22/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Advisory Action

The amendment filed on May 11, 2009 under 37 CFR 1.116 in reply to the final rejection has been entered (as addressing objection and 112, second paragraph issues) and considered but is not deemed to place the application in condition for allowance for the reasons of record set forth in the Final Office Action mailed on February 11, 2009.

Response to Arguments

Applicant's arguments filed May 11, 2009 have been fully considered but they are not persuasive.

Sokol in view of Hayes et al

(A) Applicants argue that Sokol only discloses a coating composition for coating exterior a wooden structure or porous exterior structures made from wood, concrete, stone and ceramics. Sokol only seals and coats the surface and does not mention the removal of all or a portion of the coating. Step (C) of amended claim 44 is not suggested by Sokol. Hayes which has been applied as making obvious the removal of a part of a coating, discloses a process of preparing a ceramic/polymer composite which comprises the immersion of a porous ceramic body in an epoxy under a vacuum. The impregnated ceramic body is then accurately polished using a sequence of grinding steps. The grinding sequence results in the removal of the excess epoxy and a portion of the surface of the ceramic body. The ceramic body used by Hayes are three dimensional objects that have "complicated shapes" (col. 1, lines 30-31) which do not suggest the application of any type of treatment to a flat surface such as the floor recited in claim 44.

The argument is unconvincing because Hayes et al teaches ceramic *tile* (See column 2, lines 20-21).

(B) Applicants argue that claim 45 points out a photocurable resin which is not disclosed or suggested by Sokol or Hayes.

The argument is unconvincing because As was discussed in the Office Action mailed on 8/13/2008, Sokol discloses a method for sealing porous ceramic substrate comprising treating the substrate with **UV-curable** coating composition (See P3) comprising pigments, dyes or the like (See Abstract; P21).

Art Unit: 1792

(C) Applicants argue that the polishing step of Hayes is different from step C) of claim 44 in the use of a scraper which as pointed out in claim 44, removes "the hardened coloring layer on the surface without removing the hardened composition that penetrates the pores of said ceramic substrate". Nothing in Hayes suggests the selective removal of a layer from the surface which leaves the pore and colorant composition within the pore.

The Examiner respectfully disagrees with this argument. Sokol teaches: "Even more particularly, the present invention concerns UV curable coating compositions particularly adapted for the treatment and **protection** of porous exterior structures made from wood, concrete, stone, **ceramic**, and other **porous** construction **materials**, which may be exposed to weathering and/or insect damage." "The present coating composition is particularly useful in treating wooden decks, residential and commercial wooden siding, windows, doors, trim, fences, roofing and the like. However, the present coating is also useful for application to other porous construction materials, such as, concrete/asphalt, brick and stone such as limestone and sandstone as well as masonry surfaces. Further, the present composition may be pigmented or non-pigmented, sun-cured, and may, also, define a basis for improved low UV level curable, film-forming, paints, *coatings* and *sealers*" (See P3,23). Sokol further teaches that it has been found that the present composition is *absorbed* into the wood providing a deeper penetration and longer term protection against weathering, erosion and fungal attack. In essence, upon polymerization, the composition hereof *becomes part of the cellular structure of the wood*, itself (See P69). It is contemplated that filler may be admixed into the composition. The filler not only fills the pores of the surface, but, also, aids in controlling the penetration of the composition into the porous substrate. As penetrating properties vary over the various types of concrete formulations, types of ceramic and masonry and from species to species of wood, such penetrating controls are necessary in designing penetrating properties appropriate to provide surface protection to the target substrate. Without such penetration controls, it is possible that the present composition will penetrate through the target substrate. (See P60).

Thus, Sokol teaches that UV curable composition **penetrates into pores** of porous material to seal and protect the material from the damage. Sokol fails to teach removing the cured sealer on the surface ceramic material (Claim 44). However, Hayes et al teaches that a porous ceramic material (See column 4, lines 4-45), e.g. refractory ceramic material (claimed ceramic lining) (See column 4, lines 30-31) or ceramic tile (See column 2, lines 20-21) may be

Art Unit: 1792

produced by **impregnating** the material with e.g. a curable epoxy resin, curing the resin, then *polishing the surface* of impregnated ceramic material by *grinding-off* the cured resin (claimed removing the hardened layer) (See column 28, lines 12-25) without removing the cured resin that penetrated into the pores (See column 28, lines 25-29). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have produced ceramic materials of Sokol by polishing **the surface** of impregnated ceramic material by grinding-off the cured resin from the surface, as taught by Hayes et al, depending on particular use of a final product. Note that *polishing the surface* removes the cured resin on the surface only without removing the cured resin that penetrated into the pores.

According to MPEP, to *establish a prima facie case of obviousness*, three basic criteria must be met. First, there must be some suggestion or motivation in the **references themselves** to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

In other words, the ceramic material in Sokol sealed with UV-curable resin composition has the cured resin on the surface and in its pores since Sokol teaches that the composition penetrates into the pores. Therefore, one of ordinary skill in the art would have a clear motivation to grind off the cured resin from the sealed ceramic material if the sealed ceramic material is ceramic tile, as taught by Hayes et al since it is a common knowledge in the art that the tile having ground surface would look more like natural stone. One of ordinary skill in the art would have reasonable expectation of success in using teaching of Hayes et al because both references are directed to sealed ceramic materials.

Thus, the combination of Sokol and Hayes et al meets all three basic criteria.

(D) Applicants argue that there is no suggestion in Hayes that a flooring material or any material in fact can be colored with a hardenable resin composition that is selectively removed.

Art Unit: 1792

The argument is unconvincing because primary reference of Sokol teaches colored compositions (See 21). Hayes is a *secondary* reference which is relied upon to show **grinding-off** the cured (colored or not colored) resin.

(E) Applicants argue that the product of the claimed invention is a stain resistant colored flooring which is not made obvious by Hayes and Sokol.

The argument is unconvincing because the process of Hayes and Sokol would be substantially identical to that of claimed invention, and thus would produce the same product.

Kuno in view of Curtiss et al, further in view of Hayes.

Reconsideration is requested. Curtiss is concerned with the dip coating of a layer of a resist material on a surface as a part of a photolithographic process. There is no mention of the color coating of a porous surface with the subsequent removal of the coating material without removal of the material from the pores. Nothing in the Kuno disclosure suggests removal step C) of claim 44. The polishing and grinding steps of Hayes are different from step C) of claim 44 because of the use of a scraper which as pointed out in claim 44, removes "the hardened coloring layer on the surface without removing the hardened composition that penetrates the pores of said ceramic substrate". Thus neither Curtiss nor Kuno nor Hayes alone or in combination make obvious the method as defined by the amended claims.

The Examiner respectfully disagrees with this argument. A *primary* reference of Kuno discloses a method for manufacturing colored ceramic products comprising impregnating a *porous ceramic* material with a liquid **dye**-containing resin, and a step of hardening the impregnated resin (See Abstract). PMMA resin is exposure to radiation. Curtiss et al is a *secondary* reference which is relied upon to show teaches that a solvent based PMMA resin may be used as a **photoresist** (See column 8, lines 45-50; column 2, lines 9-12). In other words, Curtiss et al teaches that PMMA resin is *photosensitive* and may be used as a solvent based resin. Hayes is not different from step C) of claim 44 because polishing the surface in Hayes removes the cured resin on the surface only without removing the cured resin that penetrated into the pores (See column 28, lines 25-28).

For these reasons, this ground of rejection should not be withdrawn.

Art Unit: 1792

Desobry in view of Hayes.

Reconsideration is requested. The Desobry patent describes the coating of all types of substrates with a photocurable composition where the finished product has the coating composition on the surface. There is no mention or suggestion of the removal of the coating composition from the surface as set forth in amended claim i, step "C). The Hayes patent has been distinguished from claims 44-46 above and that reference is silent as to the treatment of flooring and photocuring.

The Examiner respectfully disagrees with this argument for the reasons discussed above.

Rosenkrantz et al in view of Hayes.

Reconsideration is requested. The Rosenkrantz patent is only concerned with the use of a hardenable composition for coating wood, paper, plastic, metal or ceramic materials. There is no disclosure or suggestion that the coating composition is removed from the surface as set forth in step C) of amended claim 44 from which all of the claims depend. As noted above, Hayes is concerned with making a green body by mixing gluten with a ceramic that is sintered to make a highly porous body that is not a ceramic flooring material.

The Examiner respectfully disagrees with this argument for the reasons discussed above.

NL7706352 (NL'352) in view of Nettekoven.

Reconsideration is requested. The Abstract of NL "352 discloses a process for protecting ceramic products which is based on the application of a coating of a synthetic resin which prevents the ingress of soiling matter. However, the coating is described as one that is readily removed with the soiling matter after the ceramic products have been put in place. Since the removal of the dirt and stains would result in the contemporaneous removal of the resin, it is apparent that the resin in NL '352 is not "hardened", as pointed out in claim 44, which would make the resin not removable. In addition, there is no disclosure of the concept of applying color or the selective removal step as set forth in part C) of claim 44. Nettekoven mentions a pigmented coating that is used as an insulating coating which exhibits a wear indicating color as the insulating coating is eroded away or worn away. This reference mentions medical instruments as the substrates and it is not concerned with the coloring of porous ceramics used as flooring.

The Examiner respectfully disagrees with this argument. Obviously, the coating in NL "352 prevents the **ingress** of soiling matter by sealing pores of the ceramic tile; and obviously, the coating is formed by removing the solvent, i.e. by **drying**. Nettekoven is applied only as evidence that it is a common knowledge in the art to use colored removable coating to readily detect the presence of absence of the protective removable layer. It is, therefore, irrelevant whether pigmented coating is used as an insulating coating or not.

Art Unit: 1792

Abernethy et al. (Abernethy) in view of Desobry or Rosenkrantz.

Reconsideration is requested. Abernethy is concerned with a method of forming a pregROUTED mosaic tile assembly where the assembly is treated with a sealant which seals the pores and reduces water absorption. The sealant which would have to be clear or it would destroy the mosaic, is dried and cured before the surface of the mosaic is buffed and polished as described in col. 3, lines 62-71. Claim 44 explicitly requires a colored material which is not made obvious by the concept of providing a coating on a mosaic tile assembly. Abernethy is silent as to any type of material removal and on its face Abernethy does not remove any part of the sealant using the procedure of step C) of claim 44. The buffing and polishing of Abernethy does not suggest the procedure of step C) of claim 44 which requires partial removal of the hardened material while leaving the colored hardened material in the pores. As noted above, both Desobry and Rosenkrantz teach the coating of various materials but are silent as to any selective removal of the coating while leaving the colored coating in the pores. For these reasons, it is requested that this ground of rejection be withdrawn.

The Examiner respectfully disagrees with this argument. First of all, the sealant which should not be necessarily to be clear and colored sealant would not destroy the mosaic, because tiles have to have different colors to make colored mosaic. Second, in contrast to Applicants argument, the buffing and polishing of Abernethy does suggest the procedure of step C) of claim 44 which requires partial removal of the hardened material while leaving the colored hardened material in the pores because Abernethy et al is concerned about **sealing** the tiles.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy Lightfoot whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Friday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Art Unit: 1792

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy Lightfoot, Ph.D.
Primary Examiner
Art Unit 1792

May 21, 2009

/Elena Tsoy Lightfoot/